

Division of Agriculture

BULLETIN No. 427.

Albany, N. Y.
DECEMBER, 1916.

New York Agricultural Experiment Station.

GENEVA, N. Y.

NEW OR NOTEWORTHY FRUITS. V.

U. P. HEDRICK.



PUBLISHED BY THE DEPARTMENT OF AGRICULTURE.

BOARD OF CONTROL.

GOVERNOR CHARLES S. WHITMAN, Albany.
 COMMISSIONER CHARLES S. WILSON, Albany.
 THOMAS NEWBOLD, Poughkeepsie.
 WILLIAM H. MANNING, Saratoga Springs.
 PARKER CORNING, Albany.
 FRANK M. BRADLEY, Barkers.
 CHARLES C. SACKETT, Canandaigua.
 ALFRED G. LEWIS, Geneva.
 JOHN B. MULFORD, Lodi.

OFFICERS OF THE BOARD.

COMMISSIONER CHARLES S. WILSON,	WILLIAM O'HANLON,
<i>President.</i>	<i>Secretary and Treasurer.</i>

STATION STAFF.

WHITMAN H. JORDAN, Sc.D., LL.D., <i>Director.</i> GEORGE W. CHURCHILL, <i>Agriculturist and Superin-</i> <i>tendent of Labor.</i> JOSEPH F. BARKER, M.S., <i>Agronomist.</i> REGINALD C. COLLISON, M.S., <i>Associate Chemist (Agronomy).</i> WILLIAM W. BAER, B.S., <i>Assistant Chemist (Agronomy)</i> EVERETT P. REED, B.S.A., <i>Assistant Agronomist.</i> WILLIAM P. WHEELER, <i>First Assistant (Animal</i> <i>Industry).</i> ROBERT S. BREED, Ph.D., <i>Bacteriologist.</i> HAROLD J. CONN, Ph.D., <i>Associate Bacteriologist.</i> GODFREY L. A. RUEHLE, M.S., JAMES D. BREW, B.S., <i>Assistant Bacteriologists.</i> FRED C. STEWART, M.S., <i>Botanist.</i> WALTER O. GLOYER, M.A., <i>Associate Botanist.</i> MANCEL T. MUNN, B.S., <i>Assistant Botanist.</i> LUCIUS L. VAN SLYKE, Ph.D., <i>Chemist.</i> RUDOLPH J. ANDERSON, B.S., ARTHUR W. CLARK, B.S., JOHN C. BAKER, Ph.D., <i>Associate Chemists.</i> MORGAN P. SWEENEY, A.M., OTTO MCCREARY, B.S., RICHARD F. KEELER, A.B., WILLIAM F. WALSH, B.S., ARTHUR J. FLUME, B.S., <i>Assistant Chemists.</i> GEORGE A. SMITH, <i>Dairy Expert.</i>	FRANK H. HALL, B.S., <i>Vice-Director; Editor and Librarian.</i> PERCIVAL J. PARROTT, M.A., <i>Entomologist.</i> HUGH GLASGOW, Ph.D., *FRED Z. HARTZELL, M.A. (Fredonia), <i>Associate Entomologists.</i> HAROLD E. HODGKISS, B.S., BENTLEY B. FULTON, B.A., FRANK H. LATHROP, M.S., <i>Assistant Entomologists.</i> ULYSSES P. HEDRICK, Sc.D., <i>Horticulturist.</i> ROY D. ANTHONY, M.S.A., *FRED E. GLADWIN, B.S. (Fredonia), <i>Associate Horticulturists.</i> GEORGE H. HOWE, B.S.A., JOSEPH W. WELLINGTON, B.S., <i>Assistant Horticulturists.</i> ORRIN M. TAYLOR, <i>Foreman in Horticulture.</i> F. ATWOOD SIRRINE, M.S. (Riverhead), <i>Special Agent.</i> JESSIE A. SPERRY, <i>Director's Secretary.</i> FRANK E. NEWTON, WILLARD F. PATCHIN, LENA G. CURTIS, AGNES E. RYAN, MAE M. MELVIN, MAUDE L. HOGAN, <i>Clerks and Stenographers.</i> ELIZABETH JONES, <i>Computer and Mailing Clerk.</i>
---	--

Address all correspondence, not to individual members of the staff, but to the
 NEW YORK AGRICULTURAL EXPERIMENT STATION, GENEVA, N. Y.

The Bulletins published by the Station will be sent free to any farmer applying
 for them.

*Connected with Grape Culture Investigations.

BULLETIN No. 427.

NEW OR NOTEWORTHY FRUITS. V.

U. P. HEDRICK.

INTRODUCTION.

This is the fifth bulletin published by the New York Agricultural Experiment Station on new or noteworthy fruits. In these bulletins the best recent fruit-introductions grown on the Station grounds are described and their prominent pomological merits set forth. Occasionally an old variety is considered. The old sorts brought to new light are varieties which, for one reason or another, have been all but lost, or such as suffer from neglect, or kinds which under old methods of culture were defective or unmanageable but under modern care prove tractable and profitable. These are the "noteworthy" of the title.

Fruit-growers have written that they were disappointed in varieties described in the publications on new and noteworthy fruits from this Station. This is to be expected. There is no all-round variety of any fruit. No sort grows equally well in all soils and climates and serves all purposes. A variety is a combination of characters and these change in their relationships to each other with every change in conditions. A sort that succeeds in one place fails in another. A description of a variety made on the Station grounds may not fit the fruit in all particulars as it grows a few miles away. This Station, then, cannot select varieties to suit soils and climates in other parts of the State. Varieties must be tested for every locality, for every commercial demand and, more or less, by every fruit-grower.

What purpose, then, do the tests of fruits on the Station ground serve? First, by testing many varieties side by side we can make certain whether each is distinct. Second, we can tell the relative time of blooming, leafing, ripening and of plant-maturity. Third, precocity or tardiness in coming in bearing may be ascertained. Fourth, susceptibility to insect and fungus pests may be measured, to some extent. Fifth, we can ascertain for what purpose varieties are best adapted — whether for dessert, culinary purposes,

canning, evaporating, local market, general market and so on. Sixth, varieties may be described so that they may be identified by those mentally equipped to interpret descriptions. Seventh, it can be told that a variety succeeds, in comparison with standard sorts, on the soil, under the climate and with the exposure given it on the Station grounds and that it enjoys the particular treatment given. Every one of these results of variety testing is of permanent value to fruit-growers.

Testing a variety on the Station grounds, however, cannot determine its full range of adaptability. Indeed, we often find that a variety succeeds on one part of the Station farm and fails on another. Station tests cannot possibly tell under what conditions a variety will succeed or fail. The fruit-grower, we repeat, must find out for himself whether a variety is adapted to his farm. The ability to discover what varieties best suit his soil, climate and other conditions is a chief requisite to success in a fruit-grower. Of course, when a great number of fruit-growers agree that a variety is valuable for a type of soil or for a purpose for which it is grown, we have about the best criterion of the value of the variety.

Many fruit-growers believe that varieties change for better or worse. They hold, on the one hand, that a variety may become adapted to a condition to which it was not at first suited; on the other hand, that under some conditions varieties slowly but surely degenerate. The notion is not new. Indeed, no one has better expressed it than the prophet Jeremiah some thousands of years ago. Jeremiah laments:¹ "Yet I had planted thee a noble vine, wholly a right seed: how then art thou turned into the degenerate plant of a strange vine unto me"? Jeremiah's question remained unanswered and the centuries since his time have brought forth so little evidence to show that fruit-varieties change that the theory is not now in good repute in science. The weight of scientific authority is against the notion that varieties propagated by cuttings, grafts, buds or other such parts either improve or degenerate. Science very generally accepts the belief that "in vegetative reproduction, heredity is complete." Fruit-growers, we believe, may expect a variety to behave just as did the plant of origin. The descriptions of varieties of fruit made today will fit for all time if the variety is grown under the same conditions.

¹ *Jeremiah* II:21.





J. H. HALE

The number of fruits growing on the Station grounds competing with the varieties described here, are:

Apples.....	368	Apricots.....	40	Black raspberries...	23
Pears.....	175	Nectarines.....	33	Purple raspberries...	5
Quinces....	19	Gooseberries.....	74	Yellow raspberries..	1
Plums.....	279	Currants.....	35	Dewberries.....	8
Cherries... 110		Blackberries.....	40	Grapes.....	390
Peaches... 373		Red raspberries...	29	Strawberries.....	69

Of distinct species there are on the Station grounds:

Pyrus.....	38	Juglans.....	5
Prunus.....	30	Corylus.....	3
Rubus.....	53	Castanea.....	2
Ribes.....	25	Sambucus.....	4
Vitis.....	16	Fragaria.....	1

PEACHES.

J. H. Hale.—For the past few years the J. H. Hale has been the sensation of the pomological world having, beside many merits to commend it, the name and fame of the originator and of the introducers to bring it to the attention of fruit-growers. It is much like Elberta, compared with which it is larger in size and rounder in shape. Possibly the J. H. Hale is a trifle too large when the trees are at their best. In shape the fruits are almost perfect spheres, being much more attractive in this character than the oblong Elberta; and they can, too, because of their rotundity, be packed to better advantage. The symmetry of the peach is scarcely marred by the suture. In color there is no choice between Elberta and J. H. Hale — both are voluptuously handsome. The skin of the J. H. Hale is less pubescent and is possibly a little firmer and tighter which, with greater firmness in flesh, will probably enable growers to ship it farther and keep it longer than they can Elberta. In all the characters that go to make up quality,— as color, aroma, texture and juiciness, there is little choice between the two, neither, in comparison with many other peaches, ranking as extra good.

The variety has not been grown long enough in the State so that we can be certain of the merits of the tree. The consensus of opinion wherever growers have tried the two side by side is that J. H. Hale is a little hardier in both wood and buds than Elberta.

J. H. Hale ripens its crop a few days earlier than Elberta although in the markets the fruits of the two varieties will probably compete. Which is the more productive in New York cannot be determined from the data at hand nor shall we know until a large number of growers report as to the productiveness of the two in the diverse soils of the State. In the past Elberta has been the cosmopolite among peaches, adapting itself to a greater diversity of soils, exposures and climates than almost any other variety; it remains to be seen whether J. H. Hale is equally adaptable to the varied conditions of the State. The variety is still on probation in New York but each year sees it more and more planted and we shall expect it shortly to be numbered among the best commercial peaches of this region.

The variety came from a chance seedling found by J. H. Hale, South Glastonbury, Connecticut. From its characters one sees at once that it is either an offspring or is very closely related to Elberta. Mr. Hale tested the variety in commercial orchards in Connecticut and Georgia and then sold it to the William P. Stark Nurseries, Stark City, Missouri, for introduction. Distribution began in 1912 and has been rapidly carried on during the past four years.

Tree vigorous, upright-spreading, productive; branches smooth, ash-gray overspread with dark reddish-brown; leaves large, lanceolate, thin, dark green; flowers appear in mid-season. Fruit matures in mid-season; large, regular, round, with equal halves; cavity deep, wide; suture a mere line or very shallow; apex roundish, with a small tip set in a depression; color lemon-yellow overspread with attractive dark red and with mottlings and splashes of carmine; pubescence light; skin thick, tough, separates but poorly from the pulp; flesh yellow, red around the pit, juicy, fine-grained, sweet or somewhat sprightly; good in quality; stone free.

Pearson.— In spite of the fact that there are already many mid-season, white-fleshed peaches, Pearson, a newcomer, is well worthy the attention of New York fruit-growers. As the accompanying illustration shows, the fruits are large and handsomely colored, while almost perfect rotundity adds to appearance and makes them very suitable for packing. In quality Pearson is similar to the well-known Champion, about the best of all white-fleshed peaches, though possibly not quite so well flavored. It is, however, even freer of stone and ripens ten days earlier than Champion. The trees as they grow on the Station grounds are satisfactory in nearly every particular — vigorous, hardy, productive and healthy. We have no precise data as to its susceptibility to brown-rot and leaf-



PEARSON







DRAP D'OR

curl but so far it seems as free from these troubles as any other white-fleshed peach of its season. Pearson would probably have to compete with Mamie Ross where that variety is grown but is in most particulars a much better peach. We heartily recommend it both for commercial and home plantings.

This variety originated with J. M. Pearson, McKinney, Texas. Its parentage is unknown. It was introduced by E. W. Kirkpatrick of McKinney who thinks it may be a seedling of Chinese Cling.

Tree large, vigorous, spreading, the lower branches drooping, very productive; branches stocky, reddish-brown mingled with light ash-gray; leaves very large, oval to obovate-lanceolate, leathery, dull, dark green, smooth, becoming rugose along the midrib; flower-buds hardy, long, heavily pubescent, plump; blossoms appear very early, nearly two inches across, pink. Fruit matures in early mid-season; large, round-oval or somewhat cordate, compressed, with unequal halves, bulged near the apex; cavity medium to deep, with tender skin; suture variable in depth; apex round or depressed, with a small, mucronate or recurved, mamelon tip; color greenish-white with a blush covering much of the surface, more or less mottled; pubescence thin, fine, short; skin thin, tough, semi-free; flesh white, faintly tinged with red near the pit, juicy, stringy, tender and melting, pleasantly flavored; good in quality; stone semi-clinging or free.

MIRABELLE PLUMS.

To American fruit-growers, Mirabelle plums are best described as golden-yellow, sweet-flavored Damsons. These Mirabelles are hardly known in America but there are a dozen or more distinct varieties in Europe where they are highly esteemed as dessert fruits and for canning, preserves, compotes, prunes and tarts. This type of plum is represented by four varieties on the Station grounds —

rap d'Or, Reine Mirabelle, Late Mirabelle and Mirabelle — all of which are worthy the attention of fruit-growers. The small, round, yellow fruits are attractive in appearance and the sweet, pleasant flavor, whether eaten out of hand or however prepared in the kitchen, commend any of the four sorts to those who appreciate choice fruits. The trees are small but vigorous, hardy and healthy and thrive wherever Damsons grow — indeed they are so hardy and healthy that they are commonly used in the Old World as a dwarfing stock for other plums. French writers say that these Mirabelle plums come nearly true to seed and that peasants establish their small plantations by planting seed. The accompanying description and illustration are of Drap d'Or, one of the good Mirabelles though it is no better than the others of the type on the Station grounds.

Drap d'Or is an old European variety cultivated for at least 250 years.

Tree small, upright-spreading, dense-topped, hardy, productive; branches smooth, with few small lenticels; leaves small, medium in thickness and color, pubescent; flowers less than one inch across, creamy-white, usually in pairs. Fruit matures in mid-season; small, round-oval, compressed, halves equal; color greenish-yellow changing to golden-yellow, somewhat mottled and blotched, occasionally with a faint bronze blush on the exposed cheek, overspread with thin bloom; stem slender, adhering well to the fruit; skin thin, separates readily from the pulp; flesh light golden-yellow, medium juicy, coarse, firm but tender, sweet, mild; of good quality; stone small, free, oval, flattened.

RASPBERRY.

Empire is one of the most promising new, red raspberries on the Station grounds, having hardiness, productiveness, vigor of bush, healthiness, and large, handsome, firm, well-flavored fruits as its chief assets. The canes need no winter-protection in this region; equal any other variety in productiveness; are unusually vigorous, reaching a height of six or eight feet; and this season, 1916, when anthracnose was everywhere rampant, even on red raspberries, showed but a trace of this disease on the Empire. A peculiarity of the canes is that in mid-summer they are purplish-red but become brown at the close of the season. The berries average larger than those of the well-known Cuthbert, and are about the same color as those of that variety; they ripen a little earlier and have a longer picking season. The fruits are mild, rich and sweet so that the variety may be ranked among the best in quality. The texture is firm and without doubt the berries will stand shipment well and may be kept long. With such an array of good characters, it seems certain that Empire must take high standing among commercial red raspberries.

Empire originated in 1904 with L. E. Wardell, Marlboro, New York. It was obtained by crossing Ruby with Coutant. It was introduced by its originator in the fall of 1916. Mr. Wardell was also the originator and disseminator of Marlboro and Ruby. The first hill of Empire, twelve years old, is still vigorous, healthy and productive.

Plants tall, vigorous, upright, with medium number of suckers, hardy, very productive; canes smooth except for the few scattering, short prickles, stocky, long; prickles medium in thickness, short, few, becoming more numerous towards the base; internodes medium to short; buds large, long, pointed, plump, free. Leaves large, wide, medium in length, thick, dark green, rugose. Flowers appear early. Fruit matures in early mid-season, clings well to the torus yet picks easily; large, uniform, retains its size well to the close of the season, regular in outline, roundish-conical; cavity deep, medium in width; apex roundish or tapering slightly; bloom slight; drupes small, numerous, with strong coherence; color medium to dark red, glossy; flesh juicy, firm, mild, high-flavored; very good in quality; seeds medium in size.



EMPIRE







GOOD LUCK

STRAWBERRY.

Good Luck ranks among the best late strawberries on the Station grounds. In 1916 it surpassed all other late varieties in yield and proved to be one of the best shippers. Indeed, the flesh is so firm that it is doubtful whether any other berry of any season will surpass it in standing transportation. Another outstanding good character is that the plants are about the least susceptible of any sort on the Station grounds to leaf-spot. The fruits, as the color-plate shows, are large and handsome, both of these characters running very uniform as does also the wedge-like shape. The quality is particularly good for those who like a sprightly strawberry having, besides sprightliness, a most distinctive flavor. Perhaps the fruit is a little too acid for dessert but canned or cooked it is hardly surpassed in flavor. The calyx, though a little too large and too leafy, is a beautiful green. The fruit at the point of calyx attachment is rather remarkable because of small, mammiform protuberances. A defect in the variety is that the apex colors slowly so that the fruit must be picked carefully to avoid green tips. Plants of Good Luck must not be set closely as they develop many runners.

• Good Luck originated with Mr. Elwood Pedrick, Cumberland County, Maryland, in 1904. Its parentage is unknown. It was introduced by W. F. Allen, Salisbury, Maryland, in 1907.

Plants numerous, large, vigorous, healthy, very productive; leaves medium in size and thickness, with crenate margins; upper surface medium green, somewhat rugose, slightly pubescent; lower surface silvery-green; leaf-stalks long, intermediate in thickness and pubescence. Flowers semi-perfect to perfect, medium in season of bloom, one and three-sixteenths inches across; petals roundish, six to seven in number; stamens variable in number, short; pistils slightly tinged red at the tips; fruit-stems long, thick, semi-erect, branching. Fruit matures late; large, retains size well to close of season, distinctly wedge-shape, with some cockscombs in the first picking; calyx large, flat, leafy, attractive green, often surrounded at the base by small, fleshy protuberances; seeds both raised and sunken; apex a pointed wedge, inclined to green tips unless picked with care; color attractive, medium red; flesh well colored to the center, juicy, firm, sprightly — almost tart; good in quality.



